

THE JOURNAL OF PHILOSOPHY

PSYCHOLOGY AND SCIENTIFIC METHODS

THE PROBLEM OF PSYCHOLOGICAL DETERMINISM

THE tendency of modern psychology, in so far as it gives the problem of the freedom of the will any consideration, either directly or by implication, may safely be described as deterministic. In its aim to become a science, an exact science if possible, and to reduce its phenomena to strict uniformity for purposes of description and explanation, it has been led to account for all states of consciousness, including those termed voluntaristic, in terms of previous mental conditions. Empirical psychology will doubtless gladly leave the question of libertarianism open to ethics and metaphysics. Here it does not attempt to dogmatize, but for its own particular province the problem has ceased to be important, for it has ceased to exist. Psychology as a science should recognize nothing but a continuous stream of psychic states, which follow each other with a uniformity and necessity which find their counterpart in the causal relations of the phenomena of the physical world. This relation between states of consciousness is held to be an empirical fact, not a metaphysical hypothesis, and hence any assumption in regard to freedom passes from the realm of science to that of speculation, while, on the other hand, determinism is as self-evident in the world of spirit as it is in that of matter. The attitude of the psychologist of this way of thinking is perfectly clear. For him there can be no transcendent faculty of the will. Voluntary states are elements or tendencies in the totality of the consciousness of any given moment and, as parts, are not superior to the whole. If the total conscious state is determined, each part of it must fall under a like necessity. We can no better speak of a freedom of the will than we can of a freedom of imagination, desire or conception. Each conscious state owes its existence entirely and completely to the sum total of preceding psychic states. This is true even of those states termed attentive. Such a suggestion as that of Professor James that the voluntary effort to attend may be an original psychic force, and that freedom to will may be freedom to attend, will hardly be received by the thoroughgoing empiricist with favor. Attention is merely

one phase of a given conscious totality; is itself a product of antecedent conditions and in no way rises superior to the conscious elements of which it is a product. To make it an independent power would be to return to the old 'faculty psychology,' and make a metaphysical entity do business in a world of empirical relations.

The position above set forth may seem to have the merits of strict empiricism, and to avoid all metaphysical assumptions by resting simply on the basis of pure fact. To the writer, however, just the reverse seems true. Psychology, far from being compelled to assert determinism from the standpoint of empiricism, should hold to just the opposite. To maintain, or even tacitly to assume, that determinism is the law governing psychic phenomena, psychology must transcend its province as a science of mental life and become for the time being metaphysics, or it must abandon psychology as such and become physiology pure and simple. This assertion the following discussion aims to substantiate.

To get a clearer view of the position of psychology as deterministic we may be justified in turning our attention for a moment to the material sciences, and notice on what their deterministic assumptions are founded. The physical universe is held to be a realm of complete continuity, in which all phenomena are to be entirely explained in terms of other phenomena in such a way that an exact quantitative equivalence shall hold between the various members of the physical series. Any given occurrence is capable of being completely accounted for in terms of other occurrences, which are regarded as causes or conditions. It is true that this world of physical change is infinite and we may never be able in any given instance to find all the causes and conditions attending any particular phenomenon, but the inability is the fault merely of our powers of observation and experimentation. The causes and conditions all exist as facts of an actual or possible experience. In other words, the material universe constitutes a closed totality. There can be no additions from without, no loss from within. All natural phenomena demand for their explanation a completely continuous and self-contained series of like phenomena, quantitatively measurable and reducible to an ultimately common description. Physical necessity is based on the assumption that the cause of any given event in the realm of matter is to be found only within the physical universe.

"Physical science," says Stout, "has shown the thoroughgoing and continuous interconnection of all material events as a part of a single mechanical system. There is nowhere any room within the mechanical series for the interposition of conditions which are not mechanical." This conception of natural science makes it essentially deterministic, not merely because there is a uniform sequence

of phenomena, but also because there is held to exist an exact equivalence of relation between all causally connected phenomena. This assumption is not metaphysical, but empirical, for although not completely demonstrated, the relation assumed to exist is one that is within the world of possible experience—all phenomena of the physical universe are to be explained in terms of themselves.

Now when we turn our attention to the psychical world do we find the same conditions as those which prevail in the physical? If we are misled by analogies we may at first answer this question in the affirmative. Stout holds that 'the present conscious process is throughout conditioned by the past conscious process.' James asserts that 'states of consciousness are all that psychology needs to do her work with.' Conscious phenomena are generally spoken of as constituting a continuum, and psychology attempts to formulate laws which govern the relation between various conscious phenomena. If we mean by the continuity of consciousness simply that the present state as conscious is not absolutely separated from that which has gone before, and that the 'now' is modified by the preceding conscious moment, that 'the changes from one moment to another in the *quality* (italics mine) of consciousness are never absolutely abrupt,'¹ such a continuum can never be denied. Indeed, it is the revelation of immediate experience, and to doubt it would be to doubt consciousness itself. Without it all mental life would cease, and we would be reduced to psychological atomism. If, however, we mean by psychical continuity to designate such a relation as that which science assumes to exist in the physical world, we will at once be met with a serious difficulty. This a further examination of the concept of physical continuity will make evident.

In the first place, all physical phenomena are interrelated. There is no one part of the Cosmos which is not in intimate union with all other parts, but in the psychical universe each individual is a monad, standing in metaphysical isolation from all other individuals as far as his conscious life is concerned. His psychical activity must begin and end with his individuality. We get in the world of consciousness numbers of psychic entities that have no direct connection through purely psychic processes with other psychic entities. The consciousness of *A* can not pass over into the consciousness of *B*.

Again, no conscious process in a given individual can be entirely explained by previous conscious processes. There is always an element of newness and unexpectedness in each moment of our mental life, even when the train of thought is logical. This element becomes more pronounced in our ordinary loose processes of thinking.

Again, when a conscious state is suddenly broken in upon by a

¹ Quoted from James, 'The Principles of Psychology.'

sensation, the resulting conscious state is not to be deduced from anything that has gone before. Of course, we can agree with Professor James that between the consciousness of silence and that of a thunder-clap immediately following there is a relation in which there is an awareness of the preceding state and a contrast with the following, but the continuity that exists is not one which finds in the former the existence of the latter. The incoming state can not be accounted for in terms that do not transcend its consciousness. But if in the physical world we could find an event that was so thrust in from the outside, we would be obliged at once to give up our belief in the absolute continuity of this world as phenomena, and hence in the determinism of all its parts.

Finally, even if we could find in the life of the normal, adult, human being a continuity of his mental states as absolute as that which exists in the world without, this continuity would be set within narrow limits. It could not extend back before birth nor continue out beyond death. It appears and disappears absolutely as far as empirical psychology is concerned. Its existence before birth and after death is a matter for metaphysics to discuss, not for science to assume. Mental continuity, then, empirically considered, is but for a brief time, while the continuity of physical phenomena exists throughout all time.

It is quite evident, then, that when we consider consciousness by itself it presents many lacunae. It may be replied that natural phenomena, too, have gaps. On this point Wundt holds that generally we are more ready to assume breaks in the psychic series, because our subjective experience acquaints us with such breaks. This is the case, however, only because we hold to the principle of absolutely continuous physical laws, and hence fill out the wanting parts in the series of natural phenomena. The facts considered without such presuppositions make it doubtful if there are more gaps in the psychical than in the physical series. Be this as it may, it is to be noticed that the lacking elements supplied in the physical series are phenomena of the same character as those actually present, and entirely within the realm of possible experience, while the psychic series can be made continuous only either by introducing phenomena from an entirely different world, or by transcending the realm of known phenomena and passing over into the world of things-in-themselves. This the following discussion will point out.

In attempting to piece out the conscious continuum two means are at hand for the empirical psychologist, neither of which, however, he should be willing to employ. The one reduces psychology to physiology by assuming a physiological origin for all conscious states, and the other passes over into the realm of things-in-them-

selves by setting up the hypothesis of subconscious and unconscious mental states.

The physiological road many of our leading psychologists rightly refuse to travel.

“If the course of mental events is not regulated by discoverable uniformities capable of being interconnected so as to form a coherent system, the psychologist has nothing to do. It is incorrect to say that on this assumption his science becomes absorbed in physiology. It does not become absorbed; it simply ceases to exist in any form whatever.” (Stout.)

“Psychology,” says Titchener, “deals with none but mental processes.” With this point of view Wundt is also in accord. He holds that not the remotest account of the psychological development of our ideas is given when we refer the psychical synthesis to physical cause. Münsterberg asserts that the brain excitations are never the object of psychology. The real value and meaning of conscious life vanishes when we attempt to account for it in physiological terms.

The psychologist who thus seeks the aid of physiology has not only abandoned psychology as such, but he has plunged himself into metaphysical difficulties as well if he attempts to give any idea of the relationship between mind and body, which his hypothesis demands. Whether he be an automatist or an interactionist, he is at the same time a metaphysician and not an empiricist.

To avoid the difficulties set forth above many psychologists are willing to adopt the hypothesis of parallelism in one of its various forms, and to accept the existence of the subconscious and unconscious in mental life. It is true that all are not willing to agree to this view. “Unconscious psychic phenomena,” says Münsterberg, “do not exist.” And Wundt declares that the assumption is something with which psychology has nothing to do. Stout, however, believes that unconscious links must be supplied for conscious processes, and Sully says, “If we attempt to account for psychical phenomena solely by means of psychical processes we seem almost compelled to resort to their unconscious operation.” Paulsen writes,² “Are psychical processes always conscious processes, or are there also unconscious elements in psychical life? As far as I can see, no psychology can help but affirm the latter question; it must be confessed that the conscious elements make up but a small portion of psychic life.”

It is not the purpose in the narrow limits of this paper to contend for the truth or falsity of this assumption, but simply to point out that the hypothesis in question is metaphysical and not empirical.

² ‘Introduction to Philosophy,’ tr. by Thilly, pp. 120-121.

All postulates of science should be within the realm, not indeed of actual, but of possible experience. The ultimate constitution of matter has never indeed been empirically discovered, but the atomic theory, and others of a like nature, are, as Strong points out, not beyond the possibility of actual observation; but an unconscious mental state can never be experienced either in the individual possessing it or in another. When it is experienced it has ceased to be unconscious. Not only can it never be experienced; it can further never be set forth in terms of any imagined experience. We can conceive consciousness only as we possess it ourselves. Paulsen attempts to escape the difficulty involved, in conceiving an unconscious mental state not as 'an absolutely non-conscious, but only a less-conscious state, a conscious state that is perhaps completely imperceptible.' Passing over the difficulty of what a completely imperceptible conscious state may be in terms of mental life, we are confronted with the question as to what constitutes the nature of the less-conscious, if that is what we are to understand by the term sub-conscious. Does its reality exist in its consciousness, or in its lack of consciousness? Clearly, as far as it is known, in the former, and yet the subconscious is supposed to be effective in the mental series, in part at least, in that element which it possesses that is not conscious. To use the term partly conscious or confusedly conscious will not help us. We know it only as conscious; the non-conscious element must remain forever a negative concept.

Admitting, however, for the sake of argument the legitimacy of the conception of the subconscious in empirical psychology, we are by no means out of our difficulty. The subconscious, or partly conscious, is not sufficient to bridge all the gaps in the conscious continuum. It may account for our organic feelings for example, but it can not explain memory, and certainly not sensation on the psychic side. Here we must either resort to physiology, or assume mental states that are absolutely non-conscious as far as the individual is concerned. Such states are clearly unknown and unknowable, according to any meaning which we can attach to the term knowledge. They are the transcendent *X*, the absolute thing-in-itself, the legitimacy of which may be questioned in metaphysics, and which certainly can find no place in empirical science. "For psychology," says Wundt, "the unconscious is a transcendent concept."

We now come to the final question of this discussion. Can empirical psychology, as mere psychology, hold to a determinism which owes its existence either to metaphysical hypothesis or to a physiological interpretation of the mental life. The answer must be decidedly in the negative. Consciousness as such presents a multiplicity of states that, while related, are incapable of being joined

in an absolutely continuous series in which every part is related to every other in terms of a quantitative equivalence. If you take away these two conceptions of continuity and quantitative equivalence you have nothing left of the notion of determinism from the empirical standpoint. Necessity demands that between phenomena shall exist not mere uniformity of sequence, but also a necessary bond. This necessary bond, as far as science knows it, is expressed in terms of equivalence. *The effect must equal the cause.* There may of course be a metaphysical notion of necessity as there is of freedom, but with this psychology as a science has nothing to do. The laws that govern its phenomena, as far as it knows them, are those of the mental life, in which efficient causality is replaced by final causality, in which relations of quantitative equivalence are replaced by those of worth. We are no longer in the world of mechanical necessity, but in the realm of values. The most significant fact of consciousness is that it chooses, and its clearest act of choice is found in its voluntary states.

Empirical psychology then must affirm the freedom of the will. It may leave to metaphysics the ultimate question of freedom and determinism, but for itself as psychology it knows no mechanical necessity. Man may be metaphysically determined; he is empirically free.

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THE LAW OF CONGRUOUSNESS AND ITS LOGICAL APPLICATION TO DYNAMIC REALISM

IN recent articles by Professors Tawney, and Bawden, we have had illuminating discussions of utilitarian epistemology and pragmatic methodology.¹ It is possible that some of those commonly classed as pragmatists would repudiate the term, nevertheless tendencies other than that specifically indicated by this much-abused term are so closely bound up with it that the sympathetic energetic and objectivizing movement forms a very genuine bond. If the present paper seems to magnify differences, it is certainly not because the writer fails to appreciate the points held in common by 'pragmatic,' 'genetic' and 'dynamic' thinkers.

Utilitarian epistemology seems to be content with the conception that 'the laws of matter and of life are the laws of our needs.' To this all may agree whether utilitarians or not. But it is a violent

¹THE JOURNAL OF PHILOSOPHY, PSYCHOLOGY AND SCIENTIFIC METHODS, Vol. I, Nos. 13 and 16.